



Contribution ID: 108

Type: **Oral (Non-Student) / orale (non-étudiant)**

## The Everyday Phenomena of Black Hole Chemistry

*Monday 16 June 2014 14:45 (15 minutes)*

The cornerstone of thermodynamics is the first law, which for a black hole identifies thermodynamic energy with its mass, temperature with its surface gravity, and entropy with its area. Recent work that posits the identification of a cosmological constant with thermodynamic pressure results in black holes behaving somewhat like chemical systems, with pressure-volume terms appearing in the first law and the black hole mass interpreted as enthalpy instead of energy. This perspective on black holes leads to a broad range of novel and interesting phenomena that have counterparts in everyday chemical thermodynamics, including liquid-gas Van der Waals transitions, reentrant phase transitions seen in the mixing of two liquids, and the analogue of a triple point.

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**Session Classification:** (M1-5) Quantum Gravity and Quantum Cosmology - DTP / Gravité quantique et cosmologie quantique - DPT

**Track Classification:** Theoretical Physics / Physique théorique (DTP-DPT)